

ABX - Antibiotic Resistance

ABX-C COMPLICATIONS

OUTCOME: The patient/family will understand that antibiotics are reserved for bacterial infections and may have deleterious effects if used when treating viral infections.

STANDARDS:

1. Discuss the term antibiotic resistance as bacteria developing methods to survive exposure to antibiotics.
2. Explain why antibiotics are only effective in treating bacterial infections.
3. Discuss the potential to create resistant bacteria every time an antibiotic is used.
4. Discuss the following ways to minimize antibiotic resistance:
 - a. Restrict antibiotic use to bacterial infections and not for viral infections
 - b. Educate patients why “saving” or “sharing” antibiotics can cause resistance
 - i. Medications may be expired and have questionable efficacy
 - ii. Antibiotics for one type of infection may not treat another type of infection due to resistance
 - iii. When medications are saved or shared, the original infection needing antibiotic did not receive a full course and may reoccur resistant to the antibiotic
5. Instruct on the importance of taking the medication as prescribed regarding dose and duration.
6. Advise patients to take their antibiotics for the full course of therapy as prescribed even if they “feel better” after a few days. The duration of therapy can keep infections from coming back and can keep bacteria from developing resistance.
7. Discuss the implications of taking an antibiotic that is not needed:
 - a. Creating antibiotic resistance bacteria
 - b. Side effects usually are nausea, vomiting, and diarrhea
 - c. Allergic reactions
 - d. Secondary infections, e.g., yeast infections, diarrhea
 - e. Cost
8. Discuss the impact of resistant bacteria on the course of therapy and the limitations it provides in treatment.
 - a. Resistance limits treatment options to antibiotics that may be more expensive, have more side effects, or require hospitalization for administration

- b. There is a risk of developing bacteria in your body that are completely resistant to all known antibiotics and may be fatal.

ABX-DP DISEASE PROCESS

OUTCOME: The patient/family will understand the disease process of antibiotic resistance.

STANDARDS:

1. Discuss that antibiotic resistance occurs when bacteria change their structure and/or DNA so antibiotics no longer work. The bacteria have developed ways to survive antibiotics that are meant to kill them.
2. Discuss how antibiotic resistance may develop:
 - a. Antibiotic resistance can occur by the bacteria developing a way to block the antibiotic, deactivate the antibiotic, or pump the antibiotic out of the bacteria.
 - b. Antibiotic resistance occurs from exposure to an antibiotic when:
 - i. Antibiotics are given to patients more often than guidelines set by federal and other healthcare organizations recommend. For example, patients sometimes ask their doctors for antibiotics for a cold, cough, or the flu, all of which are viral and don't respond to antibiotics.
 - ii. Patients who are prescribed antibiotics who don't take the full dosing regimen can contribute to resistance. The bacteria is exposed to sub-therapeutic concentrations of antibiotic or duration of therapy, allowing for the bacteria to survive and for resistance to occur.
 - iii. Food-producing animals are given antibiotic drugs for therapeutic reasons, disease prevention, or production reasons. These drugs have the downside of potentially causing microbes to become resistant to drugs used to treat human illness.
3. Discuss which illnesses are commonly caused by viruses and do not require antibiotics. Some examples include colds, flu, coughs, bronchitis, ear infections, sinus congestion, and sore throats. Viral infections usually cannot be specifically treated with medications and must resolve on their own. Often the symptoms of viral infections can be helped with prescription or over-the-counter medications.
4. Discuss which illnesses are commonly caused by bacteria and require antibiotics including Streptococcal pharyngitis, pneumonia, ear, sinus, and urinary tract infections.
5. Explain how antibiotics specifically target bacteria and do not have any effect on the treatment of viruses.

ABX-FU FOLLOW-UP

OUTCOME: The patient/family will understand the importance of follow-up if symptoms do not resolve after antibiotic treatment or viral infections.

STANDARDS:

1. Encourage the patient to seek follow-up management for viral infections if symptoms significantly worsen, last longer than 10 days, or fever lasts longer than 72 hours.
2. Encourage the patient to seek follow-up management for bacterial infections if the patient has taken the full course of antibiotics and symptoms return, symptoms worsen while taking antibiotics, or symptoms do not improve after a certain time period determined appropriate by the provider.

ABX-L LITERATURE

OUTCOME: The patient/family will receive literature about antibiotic resistance, viral illnesses, or bacterial infections.

STANDARDS:

1. Provide the patient/family with literature on antibiotic resistance, viral illnesses, or bacterial infections.
2. Discuss the content of the literature.

ABX-M MEDICATIONS

OUTCOME: The patient/family will understand the role of appropriate antibiotic choice to minimize antibiotic resistance and to treat antibiotic resistant bacteria.

STANDARDS:

1. Discuss with the patient/family appropriate empiric therapy for the bacterial infection that is suspected.
2. Discuss the potential need to change the antibiotic after sensitivity testing due to antibiotic resistance of the infection.
3. Discuss the need to exactly follow the directions for duration of therapy and doses per day to prevent the development of antibiotic resistance and to prevent reoccurrence of the infection or development of superinfection.

ABX-P PREVENTION

OUTCOME: The patient/family will understand actions that may be taken to prevent the development of antibiotic resistant bacteria.

STANDARDS:

1. Instruct the patient/family to complete the full course of antibiotics at the proper dosing and duration.
2. Advise patient not to share or save antibiotics for the use by others or for future use.
3. Discuss with patient the importance of evaluating whether an infection is viral or bacterial. Encourage the patient not to insist on antibiotics if the infection is viral.

ABX-TE TESTS

OUTCOME: The patient/family will understand the importance of culturing a bacterial infection when possible and determining an appropriate antibiotic.

STANDARDS:

1. Discuss with the patient/family when it is appropriate to do cultures and antibiotic resistance testing.
2. Explain what test(s) will be ordered. Provide information on the necessity, benefits, and risks of the tests.
3. Explain how test results will be used to guide therapy.
4. Emphasize that there are still some infections for which empiric therapy is appropriate (e.g., sinus infections, community acquired pneumonia, strep throat) and sensitivity testing may not be required.
5. Explain that serious infections like hospital acquired pneumonia and recurrent infections may require culture and antibiotic sensitivity testing to select the appropriate treatment.
6. When appropriate, discuss that not all types of bacteria may be cultured and that additional antibiotics may have to be used to treat anaerobic bacteria.